JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH

Volume 28
1989

JTEHD6
ISSN: 0098–4108

JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH

Editor-in-Chief

RENATE KIMBROUGH, M.D.

Address for correspondence: P.O. Box 2746, Kensington, MD 20895

Editors Emeriti

Rob S. McCutcheon

Gunter Zweig*

Associate Editors

Gary P. Carlson, Department of Pharmacology and Toxicology, Purdue University, West Lafayette, IN 47907

Neil Chernoff, Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

John Doull, Department of Pharmacology, University of Kansas Medical Center, Kansas City, KS 66103

Sam Kacew, Pharmacology, Faculty of Health Sciences, University of Ottawa, School of Medicine, 451 Smyth, K1H 8M5 Ottawa, Canada

Roger O. McClellan, President, Chemical Industry and Institute of Toxicology, Research Triangle Park, NC 27709

Mark J. Reasor, Department of Pharmacology and Toxicology, West Virginia University Medical Center, Morgantown, WV 26506

Janardan K. Reddy, Department of Pathology, Northwestern University Medical School, Chicago, IL 60611

Book Review Editor

Sam Kacew, Pharmacology, Faculty of Health Sciences, University of Ottawa, School of Medicine, 451 Smyth, K1H 8M5 Ottawa, Canada

Editorial Board

Mohamed B. Abou-Donia USA
Mary O. Amdur USA
Carol R. Angle USA
G. A. S. Ansari USA
Christine Babiuk USA
R. Clifton Bailey USA
Ron Baron USA
Robert V. Blanke USA
Lena B. Brattsten USA
Edward Bresnick USA
James V. Bruckner USA
Donald R. Buhler USA
William W. Carlton USA
Laurence Chitlik USA
Thomas W. Clarkson USA
Thomas F. X. Collins USA
Jon Cook USA
Rose Dagirmanjian USA
Alan R. Dahl USA
Walter J. Decker USA
Robert M. Diener USA
John Doherty USA
Frank Dost USA
Robert T. Drew USA
A. T. Eldefrawi USA
Mohammed Farooqui USA
Richard Fenske USA
Bruce A. Fowler USA
Claire Franklin Canada
Ralph I. Freudenthal USA
T. R. Fukuto USA
Donald E. Gardner USA
John F. Gierthy USA
William H. Gingerich USA
David Goldsmith USA
B. D. Goldstein USA
Joyce Goldstein USA
Leon Earl Gary, Jr. USA
Hira L. Gurtoo USA
Frank E. Guthrie USA
Paul B. Hammond USA
A. Wallace Hayes USA
Johnnie R. Hayes USA
David J. Hoffman USA
Paul F. Hollenberg USA
M. T. Stephen Hsia USA
Rudolph Jaeger USA
Mont R. Juchau USA
Laurence S. Kaminsky USA
Robert J. Kavlock USA
Clinton Y. Kawanishi USA
Byung Kim USA
Glenn Kiplinger USA
Curtis D. Klaassen USA
James Knaak USA
Frederick W. Kutz USA
W. Homer Lawrence USA
John J. Lech USA
Joellen Lewtas USA
William Lijinsky USA
Donald J. Lisk USA
Simon Lock USA
Raymond K. Locke USA
Howard I. Maibach USA
Edward J. Massaro USA
Joyce McCann USA
Joseph McLaughlin USA
Harihara M. Mehendale USA
Julius J. Menn USA
Robert E. Menzer USA
Philip R. Miles USA
Terry L. Miller USA
Mark Montgomery USA
Elizabeth E. Moran USA
Marion Moses USA
Hasan Mukhtar USA
Joseph Nachtman USA
Kenneth C. Norbury USA
Sharon J. Northup USA
Raymond F. Novak USA
Ryoichi Oyasu USA
Norbert P. Page USA
Dennis J. Paustenbach USA
David Petering USA
M. S. Rao USA
S. A. Ridlon USA
Leonard Ritter USA
Bill D. Roebuck USA
Robert A. Roth USA
Jitendra Saxena USA
Richard B. Schlesinger USA
R. Craig Schnell USA
Ralph J. Smialowicz USA
Allan H. Smith USA
Marshall Steinberg USA
G. S. Stoewsand USA
David J. Svendsgaard USA
Martin F. Tansy USA
C. J. Terhaar USA
J. A. Thomas USA
Alan Tucker USA
Charles A. Tyson USA
Bruce B. Virgo Canada
Jaroslav J. Vostal USA
Rhoda G. Wang USA
Michael D. Waters USA
Ronald C. Wester USA
Barry W. Wilson USA
George L. Wolff USA
Dorothy E. Woolley USA
Roger Yeary USA

*Deceased.

AUTHOR INDEX TO VOLUME 28

Alarie, Yves, 13
Amdur, Mary O., 99
Andrews, Jr., John S., 183
Atherholt, Thomas B., 205
Atkins, Loretta, 501

Baer, Rebecca K., 67, 81
Bascom, Rebecca, 261
Benigni, R., 427
Bernard, Bruce K., 407
Blakley, Patricia M., 309
Bray, John T., 171
Bruckner, James V., 235
Bull, R. J., 395
Bulman, Robert A., 501
Bursian, S. J., 461
Butler, Gary H., 205

Caron, Joan, 221
Chen, Lung Chi, 99
Chu, Ih, 195
Clark, Gerald C., 327
Cooke, Peter H., 235
Coppock, R. W., 297
Correll, L., 461

Desaiah, D., 473
Dietz, F. Kirk, 235

Ecobichon, D. J., 1
Ehrich, M., 461
Erlanger, Margaret W., 151, 373
Evans, R. Gregory, 183
Evenson, Donald P., 67, 81

Firneisz, Gay D., 309

Gale, Glen R., 501
Gibson, Bruce B., 183
Ginsberg, Gary L., 205
Giuliani, A., 427
Gladu, J.-M., 1
Glickman, Lawrence T., 407
Goldschmidt, Michael H., 407
Gordon, Christopher J., 483
Grayhurst, Michael, 317
Green, Donald J., 261
Gupta, R. C., 111
Gustafsson, Torgny O., 151
Gutshall, Denise M., 53

Hardy, Colin J., 327
Healey, Edwin M., 261
Hebel, John R., 261
Highfill, Jerry W., 483
Hoffman, Gary, 195
Hoffman, Richard E., 285
Hofman, Andreas, 415
Hubbard, A. K., 445
Huxtable, R. J., 445

Iwasaki, M., 13

Janca, Frank C., 67, 81
Jaw, Sarah, 39
Jeffrey, Elizabeth H., 39
Jiang, Wen-Der, 235
Jones, Mark M., 501
Jones, Shirley G., 501
Jost, Lorna K., 67, 81

Kadel, W. L., 111
Karabinus, David S., 67, 81
Khan, A. A., 297
Khasawinah, Abdallah M., 327
Kim, Jin Suk, 309
Kleeberger, Steven R., 349, 363
Knutsen, Alan P., 183
Kolbe, John, 349
Kopp, Stephen J., 373
Kovatch, R. M., 27
Kulle, Thomas J., 261

Langley, Albert E., 53
Larson, J. L., 395
Lehning, E. J., 461
Lijinsky, W., 27
Lillie, L. E., 297
Lisk, Donald J., 13

Maier, Robert H., 171
McKee, Linda J., 407
Mennear, John H., 415
Miller, Patricia D., 99
Moody, Richard P., 161, 317
Mose, Douglas G., 129

Naylor, Paul H., 285
Needham, Larry L., 183

Ohishima, Susumu, 249
Osheroff, Merrill R., 415
Otson, Rein, 195

Patterson, Donald G., 183
Pearson, Renee C., 13
Pederson, Melissa, 277
Pelletier, Omer, 221
Pellizzone, G., 427
Perry, Elizabeth F., 151, 373
Perry, Jr., H. Mitchell, 151, 373
Pilcher, Gary D., 53
Pories, Walter J., 171

Rinehart, William, 195
Ritter, Leonard, 161, 221, 317
Roberts, Daryl W., 183
Roodman, Stanford T., 183

Saavedra, J. E., 27
Sauder, Larry R., 261
Schaumann, Blanka A., 277
Schofer, Frances S., 407
Schramm, Wayne F., 183
Schuler, M. M., 297
Seth, P. K., 473
Shane, Barbara S., 13
Shibata, Toshikatsu, 249
Shimizu, Yoshihiko, 249
Shubat, P. J., 445
Singh, Pramod K., 501
Smith, Alayne B., 501
Somers, Diana, 221
Spannhake, Ernst Wm., 349, 363
Srikanth, N. S., 473
Stehr-Green, Paul A., 285
Stock, M. F., 13

Traiger, George J., 235
Turner, Claudia, 349, 363

Vaili, Victor E., 195
Villeneuve, David C., 195

Watkinson, William P., 483
Winge, Vernon B., 277

SUBJECT INDEX TO VOLUME 28

Ca^{2-}-ATPase, inhibition by endosulfan in rat brain, 473

Barium feeding, hypertension and associated cardiovascular abnormalities induced by, 373
Benzo[a]Pyrene-induced immunotoxicity: comparison to DNA aduct formation in in vivo, in cultured splenocytes, and in microsomal systems, 205
Bis(4-amino-3-methylcyclohexyl)methane, changes induced in rat clara cells, 249
2-Butanol and 2-butanone, effect on rat hepatic ultrastructure and drug metabolizing enzyme activity, 235

Cadmium, effect of chelating agent structure on mobilization from intracellular deposits, 501
Cadmium-induced hypertension, reversal by D-myo-inositol-1,2,6-trisphosphate, 151
Carbofuran intoxication, prevention and antagonism by memantine and atropine, 111
Carcinogenesis in rats by nitrosodialkylureas containing methyl and ethyl groups given by gavage and in drinking water, 27
Chlordane, comparative inhalation toxicity in rats and monkeys, 327
Chlordimeform, modulating effect of body temperature on the toxic response produced in rats by, 483
Computerized classification methods, comparison for predicting carcinogenicity from short-term test results, 427

2,4-Dichlorophenoxyacetic acid dimethylamine, disposition by Fischer 344 rats dosed orally and dermally, 221
1,3-Dinitrobenzene, effect on prepubertal, pubertal, and adult mouse spermatogenesis, 67
1,3-Dinitrobenzene, flow cytometric analysis of effects on rat spermatogenesis, 81

Epidemiologic study of insecticide exposures, obesity, and risk of bladder cancer in household dogs, 407

Formaldehyde and carbon, acute pulmonary response in healthy, nonsmoking adults to inhalation, 261

Genotoxicity evaluation in patients on phenobarbital monotherapy by sister chromatid exchange, 277

Hepatic cytochrome P-450 and xenobiotic metabolizing enzymes, induction in rats gavaged with Alberta crude oil, 297

Lindane, evaluation of the rat tail model for estimating dermal absorption, 317
Lindane (1δ, 2δ, 3β, 4δ, 5δ, 6β-Hexachlorocyclohexane) dermal absorption in rats and rhesus monkeys, 161

Metallothionein, role in biliary metal excretion, 39
Municipal refuse incinerator fly ash, effects in the guinea pig, 13

β-Naphthoflavone, effect on *o*-tolyl saligenin phosphate-induced delayed neuropathy in two lines of chickens, 461

1 PPM Ozone, exposure attenuates the immediate antigenic response of canine peripheral airways, 349
Ozone, preexposure blocks the antigen-induced late asthmatic response of the canine peripheral airways, 363

Perfluoro-*n*-decanoic acid (PFDA), mechanism of the serum thyroid hormone lowering effect in rats, 53
Pyrrolizidine alkaloid monocrotaline, dose-response relationship in intoxication by, 445

Radon, winter-to-winter variations, 129
Ribavirin, evaluation of exposure of health care personnel, 1

Subacute inhalation toxicity of a medium-boiling coal liquefaction product, 195
Sulfur oxides, effects on Eicosanoids, 99

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin, diminished thymosin alpha-1 levels in persons exposed, 285
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin, medical evaluation of subjects with known body levels, 183
Titanium dioxide-coated mica, toxicology and carcinogenesis studies in male and female Fischer 344 rats, 415
Tordon 202c, effects of gestational exposure on fetal growth and development in CD-1 mice, 309
Trace element status of some commercial smokeless tobaccos, 171
Trichloroethylene, effect of ethanol on the metabolism of, 395

CONTENTS OF VOLUME 28

NUMBER 1

1 EVALUATION OF EXPOSURE OF HEALTH CARE PERSONNEL TO RIBAVIRIN **J.-M. Gladu and D. J. Ecobichon**

13 EFFECTS OF INHALED MUNICIPAL REFUSE INCINERATOR FLY ASH IN THE GUINEA PIG **Yves Alarie, M. Iwasaki, M. F. Stock, Renee C. Pearson, Barbara S. Shane, and Donald J. Lisk**

27 CARCINOGENESIS IN RATS BY NITROSODIALKYLUREAS CONTAINING METHYL AND ETHYL GROUPS GIVEN BY GAVAGE AND IN DRINKING WATER **W. Lijinsky, J. E. Saavedra, and R. M. Kovatch**

39 ROLE OF METALLOTHIONEIN IN BILIARY METAL EXCRETION **Sarah Jaw and Elizabeth H. Jeffery**

53 MECHANISM OF THE SERUM THYROID HORMONE LOWERING EFFECT OF PERFLUORO-*n*-DECANOIC ACID (PFDA) IN RATS **Denise M. Gutshall, Gary D. Pilcher, and Albert E. Langley**

67 EFFECT OF 1,3-DINITROBENZENE ON PREPUBERTAL, PUBERTAL, AND ADULT MOUSE SPERMATOGENESIS **Donald P. Evenson, Frank C. Janca, Rebecca K. Baer, Lorna K. Jost, and David S. Karabinus**

81 FLOW CYTOMETRIC ANALYSIS OF EFFECTS OF 1,3-DINITROBENZENE ON RAT SPERMATOGENESIS **Donald P. Evenson, Frank C. Janca, Lorna K. Jost, Rebecca K. Baer, and David S. Karabinus**

99 EFFECTS OF SULFUR OXIDES ON EICOSANOIDS **Lung Chi Chen, Patricia D. Miller, and Mary O. Amdur**

111 PREVENTION AND ANTAGONISM OF ACUTE CARBOFURAN INTOXICATION BY MEMANTINE AND ATROPINE **R. C. Gupta and W. L. Kadel**

123 BOOK REVIEWS

127 ANNOUNCEMENTS

NUMBER 2

129 WINTER-TO-WINTER VARIATIONS IN INDOOR RADON **Douglas G. Mose, George W. Mushrush, and Stephen W. Kline**

151 REVERSAL OF CADMIUM-INDUCED HYPERTENSION BY D-MYO-INOSITOL-1,2,6-TRISPHOSPHATE **H. Mitchell Perry, Jr., Margaret W. Erlanger, Torgny O. Gustafsson, and Elizabeth F. Perry**

161 DERMAL ABSORPTION OF THE INSECTICIDE LINDANE (1δ, 2δ, 3β, 4δ, 5δ, 6β-HEXACHLOROCYCLOHEXANE) IN RATS AND RHESUS MONKEYS: EFFECT OF ANATOMICAL SITE **Richard P. Moody and Leonard Ritter**

171 TRACE ELEMENT STATUS OF SOME COMMERCIAL SMOKELESS TOBACCOS **Robert H. Maier, John T. Bray, and Walter J. Pories**

183 MEDICAL EVALUATION OF SUBJECTS WITH KNOWN BODY LEVELS OF 2,3,7,8-TETRACHLORODIBENZO-*p*-DIOXIN **Karen B. Webb, R. Gregory Evans, Alan P. Knutsen, Stanford T. Roodman, Daryl W. Roberts, Wayne F. Schramm, Bruce B. Gibson, John S. Andrews, Jr., Larry L. Needham, and Donald G. Patterson**

195 SUBACUTE INHALATION TOXICITY OF A MEDIUM-BOILING COAL LIQUEFACTION PRODUCT (154–378°C) IN THE RAT [PART III] **Ih Chu, William Rinehart, Gary Hoffman, David C. Villeneuve, Rein Otson, and Victor E. Valli**

205 BENZO[a]PYRENE-INDUCED IMMUNOTOXICITY: COMPARISON TO DNA ADDUCT FORMATION IN VIVO, IN CULTURED SPLENOCYTES, AND IN MICROSOMAL SYSTEMS **Gary L. Ginsberg, Thomas B. Atherholt, and Gary H. Butler**

221 DISPOSITION OF 2,4-DICHLOROPHENOXYACETIC ACID DIMETHYLAMINE SALT BY FISCHER 344 RATS DOSED ORALLY AND DERMALLY **Orner Pelletier, Leonard Ritter, Joan Caron, and Diana Somers**

235 EFFECT OF 2-BUTANOL AND 2-BUTANONE ON RAT HEPATIC ULTRASTRUCTURE AND DRUG METABOLIZING ENZYME ACTIVITY **George J. Traiger, James V. Bruckner, Wen-Der Jiang, F. Kirk Dietz, and Peter H. Cooke**

249 ULTRASTRUCTURAL CHANGES IN RAT CLARA CELLS INDUCED BY BIS(4-AMINO-3-METHYLCYCLOHEXYL)METHANE **Susumu Ohshima, Yoshihiko Shimizu, and Toshikatsu Shibata**

257 BOOK REVIEWS

259 ANNOUNCEMENTS

NUMBER 3

261 ACUTE PULMONARY RESPONSE IN HEALTHY, NONSMOKING ADULTS TO INHALATION OF FORMALDEHYDE AND CARBON **Donald J. Green, Rebecca Bascom, Edwin M. Healey, John R. Hebel, Larry R. Sauder, and Thomas J. Kulle**

277 GENOTOXICITY EVALUATION IN PATIENTS ON PHENOBARBITAL MONOTHERAPY BY SISTER CHROMATID EXCHANGE **Blanka A. Schaumann, Vernon B. Winge, and Melissa Pederson**

285 DIMINISHED THYMOSIN$_{alpha\text{-}1}$ LEVELS IN PERSONS EXPOSED TO 2,3,7,8-TETRACHLORODIBENZO-*p*-DIOXIN **Paul A. Stehr-Green, Paul H. Naylor, and Richard E. Hoffman**

297 INDUCTION OF HEPATIC CYTOCHROME P-450 AND XENOBIOTIC METABOLIZING ENZYMES IN RATS GAVAGED WITH AN ALBERTA CRUDE OIL **A. A. Khan, R. W. Coppock, M. M. Schuler, A. K. Sharma, and L. E. Lillie**

309 EFFECTS OF GESTATIONAL EXPOSURE TO TORDON 202c ON FETAL GROWTH AND DEVELOPMENT IN CD-1 MICE **Patricia M. Blakley, Jin Suk Kim, and Gay D. Firneisz**

317 EVALUATION OF THE RAT TAIL MODEL FOR ESTIMATING DERMAL ABSORPTION OF LINDANE **Richard P. Moody, Michael Grayhurst, and Len Ritter**

327 COMPARATIVE INHALATION TOXICITY OF TECHNICAL CHLORDANE IN RATS AND MONKEYS **Abdallah M. Khasawinah, Colin J. Hardy, and Gerald C. Clark**

349 EXPOSURE TO 1 PPM OZONE ATTENUATES THE IMMEDIATE ANTIGENIC RESPONSE OF CANINE PERIPHERAL AIRWAYS **Steven R. Kleeberger, John Kolbe, Claudia Turner, and Ernst W. Spannhake**

363 PREEXPOSURE TO OZONE BLOCKS THE ANTIGEN-INDUCED LATE ASTHMATIC RESPONSE OF THE CANINE PERIPHERAL AIRWAYS **Claudia R. Turner, Steven R. Kleeberger, and Ernst W. Spannhake**

373 HYPERTENSION AND ASSOCIATED CARDIOVASCULAR ABNORMALITIES INDUCED BY CHRONIC BARIUM FEEDING **H. Mitchell Perry, Jr., Stephen J. Kopp, Elizabeth F. Perry, and Margaret W. Erlanger**

389 BOOK REVIEWS

393 ANNOUNCEMENTS

NUMBER 4

395 EFFECT OF ETHANOL ON THE METABOLISM OF TRICHLOROETHYLENE **J. L. Larson and R. J. Bull**

407 EPIDEMIOLOGIC STUDY OF INSECTICIDE EXPOSURES, OBESITY, AND RISK OF BLADDER CANCER IN HOUSEHOLD DOGS **Lawrence T. Glickman, Frances S. Schofer, Linda J. McKee, John S. Reif, and Michael H. Goldschmidt**

415 TOXICOLOGY AND CARCINOGENESIS STUDIES OF DIETARY TITANIUM DIOXIDE-COATED MICA IN MALE AND FEMALE FISCHER 344 RATS **Bruce K. Bernard, Merrill R. Osheroff, Andreas Hofman, and John H. Mennear**

427 COMPARISON OF DIFFERENT COMPUTERIZED CLASSIFICATION METHODS FOR PREDICTING CARCINOGENICITY FROM SHORT-TERM TEST RESULTS **R. Benigni, G. Pellizzone, and A. Giuliani**

445 DOSE-RESPONSE RELATIONSHIP IN INTOXICATION BY THE PYRROLIZIDINE ALKALOID MONOCROTALINE **P. J. Shubat, A. K. Hubbard, and R. J. Huxtable**

461 EFFECT OF β-NAPHTHOFLAVONE ON *o*-TOLYL SALIGENIN PHOSPHATE-INDUCED DELAYED NEUROPATHY IN TWO LINES OF CHICKENS **S. J. Bursian, E. J. Lehning, L. Correll, and M. Ehrich**

473 INHIBITION OF CALMODULIN-ACTIVATED Ca^{2-}-ATPASE BY ENDOSULFAN IN RAT BRAIN **N. S. Srikanth, P. K. Seth, and D. Desaiah**

483 MODULATING EFFECT OF BODY TEMPERATURE ON THE TOXIC RESPONSE PRODUCED BY THE PESTICIDE CHLORDIMEFORM IN RATS **William P. Watkinson, Jerry W. Highfill, and Christopher J. Gordon**

501 EFFECT OF CHELATING AGENT STRUCTURE ON THE MOBILIZATION OF CADMIUM FROM INTRACELLULAR DEPOSITS **Pramod K. Singh, Mark M. Jones, Shirley G. Jones, Glen R. Gale, Loretta M. Atkins, Alayne B. Smith, and Robert A. Bulman**

519 ANNOUNCEMENTS

FOLLOWING PAGE 519:

TITLE PAGE TO VOLUME 28

CONTENTS OF VOLUME 28

AUTHOR INDEX TO VOLUME 28

SUBJECT INDEX TO VOLUME 28